

Plastics and Rubber Industry Machinery Manufacturing: 2002

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2002 Economic Census

Manufacturing

Industry Series



U S C E N S U S B U R E A U

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU



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-- Not applicable for this report.

Table 1. Historical Statistics for the Industry: 2002 and Earlier Years

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year ¹	Com- panies ²	All estab- lish- ments ³	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)	
			Number ⁴	Payroll (\$1,000)	Number ⁴	Hours (1,000)	Wages (\$1,000)					
333220, Plastics and rubber industry machinery manufacturing	2002..	536	557	16 433	742 065	8 939	19 853	316 139	1 551 770	1 454 553	3 067 415	86 009
	2001..	N	N	16 734	696 109	9 914	20 236	327 458	1 735 963	1 449 504	3 246 911	96 892
	2000..	N	N	17 596	759 887	10 827	22 786	381 701	1 783 774	1 962 463	3 662 666	109 169
	1999..	N	N	17 304	720 215	10 472	21 264	362 554	1 627 422	1 646 276	3 258 159	106 107
	1998..	N	N	18 783	719 535	10 794	21 054	355 305	1 681 726	1 565 041	3 263 727	91 385
	1997..	427	453	18 530	741 819	10 427	21 042	349 773	1 950 024	1 652 432	3 570 320	92 781

¹Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Industry Statistics for Selected States: 2002

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments ²		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
333220, Plastics and rubber industry machinery manufacturing												
United States	2	557	163	16 433	742 065	8 939	19 853	316 139	1 551 770	1 454 553	3 067 415	86 009
California	4	70	9	842	35 289	516	1 063	15 840	95 669	54 264	149 122	8 673
Connecticut	1	15	6	722	33 686	396	811	15 920	54 980	97 566	156 993	3 730
Florida	3	15	3	126	3 943	86	210	2 203	5 920	4 645	10 710	242
Illinois	—	31	9	1 247	57 551	660	2 241	24 269	147 359	94 038	237 967	12 750
Indiana	5	21	2	203	7 784	107	240	2 936	12 002	7 772	19 641	832
Kansas	—	8	5	274	13 875	146	284	5 539	40 612	28 466	67 421	476
Massachusetts	4	27	9	1 284	62 253	664	1 322	23 160	110 104	86 806	198 836	6 070
Michigan	1	57	20	1 897	85 508	1 122	2 263	44 488	203 128	140 716	341 630	7 657
Minnesota	5	9	3	176	9 265	115	317	5 147	26 544	17 778	44 147	682
Missouri	—	8	3	101	3 262	76	194	1 786	6 342	4 141	10 840	65
New Hampshire	—	4	3	104	5 079	51	119	1 985	6 069	14 529	23 416	153
New York	3	22	11	1 163	50 769	693	1 987	24 064	99 669	66 810	164 870	5 010
North Carolina	3	15	4	258	12 786	109	206	3 531	31 069	28 382	59 344	1 100
Ohio	1	74	34	3 160	143 299	1 581	3 326	55 584	201 941	375 849	626 689	9 011
Pennsylvania	—	27	9	1 255	62 430	596	1 150	21 220	167 212	170 983	342 988	3 398
Tennessee	6	15	2	137	6 331	88	241	3 134	10 647	7 623	18 680	606
Texas	8	13	2	143	6 714	93	184	3 451	18 521	26 068	42 311	2 774
Washington	9	11	2	460	17 967	283	403	6 365	17 340	11 517	28 745	1 266
Wisconsin	2	19	9	561	24 353	356	761	12 109	66 339	30 172	93 303	2 916

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
333220, Plastics and rubber industry machinery manufacturing	
Companies ¹	number.. 536
All establishments ²	number.. 557
Establishments with 1 to 19 employees	number.. 394
Establishments with 20 to 99 employees	number.. 124
Establishments with 100 employees or more	number.. 39
All employees ³	number.. 16 433
Total compensation	\$1,000.. 921 252
Annual payroll	\$1,000.. 742 065
Total fringe benefits	\$1,000.. 179 187
Production workers, average for year	number.. 8 939
Production workers on March 12	number.. 8 985
Production workers on May 12	number.. 8 975
Production workers on August 12	number.. 8 907
Production workers on November 12	number.. 8 852
Production worker hours	1,000.. 19 853
Production worker wages	\$1,000.. 316 139
Total cost of materials	\$1,000.. 1 454 553
Materials, parts, containers, packaging, etc., used	\$1,000.. 1 155 867
Resales	\$1,000.. 230 096
Purchased fuels	\$1,000.. 5 230
Purchased electricity	\$1,000.. 18 729
Contract work	\$1,000.. 44 631
Quantity of electricity purchased for heat and power	1,000 kWh.. 292 764
Quantity of electricity generated less sold for heat and power	1,000 kWh.. S
Total value of shipments	\$1,000.. 3 067 415
Primary products value of shipments	\$1,000.. 2 580 808
Secondary products value of shipments	\$1,000.. 135 030
Total miscellaneous receipts	\$1,000.. 351 577
Value of resales	\$1,000.. 317 395
Contract receipts	\$1,000.. 11 392
Other miscellaneous receipts	\$1,000.. 22 790
Primary products specialization ratio	percent.. 95
Value of primary products shipments made in all industries	\$1,000.. 2 693 511
Value of primary products shipments made in this industry	\$1,000.. 2 580 808
Value of primary products shipments made in other industries	\$1,000.. 112 703
Coverage ratio	percent.. 96
Value added	\$1,000.. 1 551 770
Total inventories, beginning of year	\$1,000.. 735 421
Finished goods inventories	\$1,000.. 246 822
Work-in-process inventories	\$1,000.. 207 396
Materials and supplies inventories	\$1,000.. 281 203
Total inventories, end of year	\$1,000.. 612 229
Finished goods inventories	\$1,000.. 234 151
Work-in-process inventories	\$1,000.. 158 975
Materials and supplies inventories	\$1,000.. 219 103
Gross value of depreciable assets (acquisition costs) at beginning of year	\$1,000.. 982 489
Total capital expenditures (new and used)	\$1,000.. 86 009
Buildings and other structures (new and used)	\$1,000.. 10 948
Machinery and equipment (new and used)	\$1,000.. 75 061
Automobiles, trucks, etc., for highway use	\$1,000.. 3 078
Computers and peripheral data processing equipment	\$1,000.. 10 437
All other expenditures for machinery and equipment	\$1,000.. 61 546
Total retirements	\$1,000.. 38 926
Gross value of depreciable assets at end of year	\$1,000.. 1 029 572
Depreciation charges during year	\$1,000.. 80 161
Total rental payments	\$1,000.. 47 136
Buildings and other structures	\$1,000.. 28 239
Machinery and equipment	\$1,000.. 18 897
Total other expenses ⁴	\$1,000.. 181 811
Response coverage ratio ⁵	percent.. 70
Repair and maintenance services of buildings and/or machinery ⁴	\$1,000.. 10 685
Communications services ⁴	\$1,000.. 8 146
Legal services ⁴	\$1,000.. 7 496
Accounting, auditing, and bookkeeping services ⁴	\$1,000.. 3 410
Advertising and promotional services ⁴	\$1,000.. 12 729
Expensed computer hardware and supplies and purchased computer services ⁴	\$1,000.. 3 684
Refuse removal (including hazardous waste) services ⁴	\$1,000.. 1 439
Management consulting and administrative services ⁴	\$1,000.. 5 372
Taxes and license fees ⁴	\$1,000.. 15 213
All other expenses ⁴	\$1,000.. 113 637

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Based on Annual Survey of Manufactures (ASM) sample data.

⁵A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E ¹	All establishments ²	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
333220, Plastics and rubber industry machinery manufacturing											
All establishments	2	557	16 433	742 065	8 939	19 853	316 139	1 551 770	1 454 553	3 067 415	86 009
Establishments with—											
1 to 4 employees	9	243	487	20 792	319	612	9 558	38 575	25 530	64 133	3 311
5 to 9 employees	6	79	540	24 862	315	792	10 680	55 844	38 830	94 621	3 964
10 to 19 employees	4	72	1 019	46 297	590	1 701	19 512	102 962	92 080	196 560	9 085
20 to 49 employees	3	78	2 481	107 050	1 481	3 449	49 336	264 826	211 851	472 530	13 947
50 to 99 employees	1	46	3 289	142 087	1 855	4 320	60 844	329 268	255 811	615 681	14 818
100 to 249 employees	2	31	5 164	238 893	2 762	6 278	97 223	470 156	377 397	844 133	30 910
250 to 499 employees	—	6	9	D	D	D	D	D	D	D	D
500 to 999 employees	—	2	9	D	D	D	D	D	D	D	D
1,000 to 2,499 employees	—	—	—	—	—	—	—	—	—	—	—
2,500 employees or more	—	—	—	—	—	—	—	—	—	—	—
Administrative records ⁴	9	288	950	44 012	601	1 175	19 367	83 561	58 108	141 112	6 236

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1—10 to 19 percent; 2—20 to 29 percent; 3—30 to 39 percent; 4—40 to 49 percent; 5—50 to 59 percent; 6—60 to 69 percent; 7—70 to 79 percent; 8—80 to 89 percent; 9—90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Industry Statistics by Primary Product Class Specialization: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments ¹	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ²	Payroll (\$1,000)	Number ²	Hours (1,000)	Wages (\$1,000)				
333220	Plastics and rubber industry machinery manufacturing	557	16 433	742 065	8 939	19 853	316 139	1 551 770	1 454 553	3 067 415	86 009
3332201	Plastics-working machinery and equipment, excluding patterns and molds	223	13 695	624 444	7 347	16 220	265 741	1 354 928	1 283 617	2 674 016	76 095
3332203	Rubber-working machinery and equipment, excluding tire molds ...	38	1 354	58 728	754	1 640	24 171	138 306	112 474	252 055	4 328

¹Includes establishments with payroll at any time during the year.

²Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6a. **Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
333220	Plastics and rubber industry machinery manufacturing	2002.. N 1997.. N	X X	X X	2 693 511 3 093 784
3332201	Plastics-working machinery and equipment, excluding patterns and molds	2002.. N 1997.. N	X X	X X	2 382 655 2 671 954
33322011	Plastic screw extrusion machines, excluding patterns and molds	2002.. N 1997.. N	X X	X X	254 456 331 666
3332201106	Plastics single screw extrusion machines, up to 2.49 in. screw diameter, excluding patterns and molds	2002.. 16 1997.. 11	X X	X X	63 340 84 506
3332201111	Plastics single screw extrusion machines, 2.50 in. to 5.49 in. screw diameter, excluding patterns and molds	2002.. 19 1997.. 15	X X	X X	129 139 164 294
3332201116	Plastics single screw extrusion machines, 5.50 in. screw diameter or larger, excluding patterns and molds	2002.. 11 1997.. 12	X X	X X	34 022 51 494
3332201121	Plastics multiple screw extrusion machines, excluding patterns and molds	2002.. 12 1997.. 5	X X	X X	27 955 31 372
33322012	Plastic molding machines, excluding patterns and molds	2002.. N 1997.. N	X X	X X	839 084 801 971
3332201201	Plastics compression molding machines, excluding patterns and molds	2002.. 11 1997.. 6	X X	X X	45 034 21 234
3332201226	Plastics injection molding machines, 500 tons or less, excluding patterns and molds	2002.. 38 1997.. 18	X X	X X	322 926 351 734
3332201231	Plastics injection molding machines, more than 500 tons, excluding patterns and molds	2002.. 14 1997.. 8	X X	X X	205 922 244 826
3332201236	Plastics blow molding machines, excluding patterns and molds	2002.. 18 1997.. 14	X X	X X	265 202 184 177
33322013	Other machinery for working plastics and making products from plastics	2002.. N 1997.. N	X X	X X	873 158 996 934
3332201341	Plastics granulators and pelletizers	2002.. 15 1997.. 18	X X	X X	91 538 112 117
3332201346	Plastics thermoforming machines, excluding patterns and molds	2002.. 12 1997.. 10	X X	X X	75 818 82 501
3332201351	Calendering or other rolling machines for working plastics, excluding patterns or molds	2002.. 3 1997.. 8	X X	X X	11 719 15 182
3332201356	Machines for cold working plastics, including drilling, milling, slicing, grinding, etc., excluding patterns of molds	2002.. 9 1997.. 13	X X	X X	22 309 33 895
3332201361	Machinery for treating plastics by means of a temperature change	2002.. 19 1997.. 23	X X	X X	139 165 82 441
3332201366	Other machinery for forming plastics	2002.. 32 1997.. 28	X X	X X	120 150 237 660
3332201371	All other machinery for working plastics or making products from plastics	2002.. 63 1997.. 51	X X	X X	412 459 433 138
33322014	Other machinery for forming, working, or making products from plastics, including parts for plastics working machinery	2002.. N 1997.. N	X X	X X	382 699 458 007
3332201476	Parts of machinery for treating plastics by means of a temperature change	2002.. 12 1997.. 18	X X	X X	D 90 663
3332201481	Parts of calendering or rolling machines for plastics	2002.. 3 1997.. 4	X X	X X	D 5 021
3332201486	Other parts for plastics working machinery	2002.. 63 1997.. 61	X X	X X	314 340 362 323
3332201Y	Plastics-working machinery and equipment, excluding patterns and molds, nsk	2002.. N 1997.. N	X X	X X	33 258 83 376
3332201YVV	Plastics-working machinery and equipment, excluding patterns and molds, nsk	2002.. N 1997.. N	X X	X X	33 258 83 376
3332203	Rubber-working machinery and equipment, excluding tire molds	2002.. N 1997.. N	X X	X X	210 013 290 979
33322031	Machinery for working rubber and making products of rubber, excluding tire molds	2002.. N 1997.. N	X X	X X	182 078 234 162
3332203101	High-intensity rubber solids mixers	2002.. 4 1997.. 7	X X	X X	25 371 32 936
3332203106	Rubber extruding machines, excluding tire molds	2002.. 5 1997.. 8	X X	X X	28 376 20 973
3332203111	Rubber tire building equipment, except tire molds	2002.. 8 1997.. 15	X X	X X	46 985 51 034
3332203116	Rubber tire recapping and repairing machinery and equipment, including recapping vulcanizers, excluding tire molds	2002.. 6 1997.. 8	X X	X X	21 639 34 233
3332203121	Other machinery for working rubber and making products of rubber, excluding tire molds	2002.. 22 1997.. 33	X X	X X	59 707 94 986
33322032	Parts for rubber working machinery, excluding tire molds	2002.. N 1997.. N	X X	X X	27 935 46 850
3332203226	Parts for rubber working machinery, excluding tire molds	2002.. 14 1997.. 33	X X	X X	27 935 46 850
3332203Y	Rubber-working machinery and equipment, excluding tire molds, nsk	2002.. N 1997.. N	X X	X X	— 9 967

See footnotes at end of table.

Table 6a. **Products Statistics: 2002 and 1997—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
333220	Plastics and rubber industry machinery manufacturing—Con.				
3332203	Rubber-working machinery and equipment, excluding tire molds—Con.				
3332203Y	Rubber-working machinery and equipment, excluding tire molds, nsk—Con.				
3332203YVV	Rubber-working machinery and equipment, excluding tire molds, nsk	2002..	N	X	—
		1997..	N	X	9 967
333220W	Plastics and rubber industry machinery manufacturing, nsk, total	2002..	N	X	100 843
		1997..	N	X	130 851
333220WY	Plastics and rubber industry machinery manufacturing, nsk, total	2002..	N	X	100 843
		1997..	N	X	130 851
333220WYWW	Plastics and rubber industry machinery manufacturing, nsk, for nonadministrative-record establishments	2002..	N	X	28 729
		1997..	N	X	50 066
333220WYWY	Plastics and rubber industry machinery manufacturing, nsk, for administrative-record establishments	2002..	N	X	72 114
		1997..	N	X	80 785

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p—10 to 19 percent estimated; q—20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. Product Class Shipments for Selected States: 2002 and 1997

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3332201	Plastics-working machinery and equipment, excluding patterns and molds	
	United States	2002 .. 2 382 655
		1997 .. 2 671 954
	California	2002 .. 94 116
		1997 .. 28 622
	Connecticut	2002 .. 104 244
		1997 .. 162 917
	Florida	2002 .. 8 123
		1997 .. 9 971
	Illinois	2002 .. 224 683
		1997 .. 145 517
	Indiana	2002 .. 24 648
		1997 .. 45 729
	Kansas	2002 .. 35 819
		1997 .. 26 148
	Massachusetts	2002 .. 182 983
		1997 .. 292 437
	Michigan	2002 .. 285 717
		1997 .. 315 969
	Minnesota	2002 .. 59 075
		1997 .. 14 469
	Missouri	2002 .. 14 843
		1997 .. 7 126
	New Hampshire	2002 .. 9 518
		1997 .. 14 787
	New York	2002 .. 137 323
		1997 .. 97 664
	North Carolina	2002 .. 48 401
		1997 .. 30 706
	Ohio	2002 .. 409 038
		1997 .. 824 914
	Pennsylvania	2002 .. 281 978
		1997 .. 227 668
	Tennessee	2002 .. 9 361
		1997 .. N
	Texas	2002 .. 42 886
		1997 .. 14 611
	Wisconsin	2002 .. 63 849
		1997 .. 89 230
3332203	Rubber-working machinery and equipment, excluding tire molds	
	United States	2002 .. 210 013
		1997 .. 290 979
	California	2002 .. 14 205
		1997 .. 16 413
	Indiana	2002 .. 5 639
		1997 .. 10 043
	North Carolina	2002 .. 6 932
		1997 .. N
	Ohio	2002 .. 100 662
		1997 .. 134 555
	Pennsylvania	2002 .. 3 302
		1997 .. N

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 7. Materials Consumed by Kind: 2002 and 1997

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
333220	Plastics and rubber industry machinery manufacturing		
00900001	Total materials .....2002..	X	1 155 867
	.....1997..	X	1 359 620
001900B1	Electrical transmission, distribution, and control equipment.....2002..	X	108 939
	.....1997..	X	107 001
33399601	Fluid power pumps, motors, and hydrostatic transmissions (hydraulic and pneumatic) .....2002..	X	40 502
	.....1997..	X	40 804
33391101	Other pumps and pump parts, excluding fluid power (complete assemblies) .....2002..	X	7 754
	.....1997..	X	9 559
33291207	Fluid power valves (hydraulic and pneumatic) .....2002..	X	19 412
	.....1997..	X	21 707
33399501	Fluid power cylinders and rotary actuators (hydraulic and pneumatic) .....2002..	X	19 952
	.....1997..	X	21 591
33291203	Fluid power hose and tube fittings and assemblies (hydraulic and pneumatic) .....2002..	X	11 199
	.....1997..	X	12 687
33399901	Fluid power filters (hydraulic and pneumatic) .....2002..	X	3 641
	.....1997..	X	4 600
00190089	Other fluid power products, hydraulic and pneumatic .....2002..	X	6 654
	.....1997..	X	7 732
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products .....2002..	X	26 779
	.....1997..	X	13 554
332000A1	Metal tanks, heat exchangers, steam condensers, and other boiler products (fabricated steel plate, and weldments) .....2002..	X	30 602
	.....1997..	X	35 473
33291901	Metal pipe, valves, and pipe fittings (excluding forgings) .....2002..	X	8 835
	.....1997..	X	10 383
33200051	Other fabricated metal products (excluding fluid power products and forgings) .....2002..	X	47 382
	.....1997..	X	50 027
33210000	Forgings .....2002..	X	6 793
	.....1997..	X	N
33151001	Iron and steel castings (rough and semifinished) .....2002..	X	96 537
	.....1997..	X	93 429
33152005	Aluminum and aluminum-base alloy castings (rough and semifinished) .....2002..	X	8 596
	.....1997..	X	10 161
33152003	Other nonferrous metalcastings, rough and semifinished (excluding aluminum and aluminum-base alloy) .....2002..	X	2 514
	.....1997..	X	3 590
33120007	Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products) .....2002..	X	65 160
	.....1997..	X	68 383
33120016	Steel sheet and strip (including tinplate) .....2002..	X	28 889
	.....1997..	X	N
33120019	Steel structural shapes and sheet piling (excluding castings, forgings, and fabricated metal products) .....2002..	X	16 464
	.....1997..	X	16 658
33120091	All other steel shapes and forms (excluding castings, forgings, fabricated metal products, bars, bar shapes, plate, sheet, strip, structural shapes, and sheet piling) .....2002..	X	23 589
	.....1997..	X	25 740
33131500	Aluminum and aluminum-base alloy sheet, plate, foil, and welded tubing .....2002..	X	7 586
	.....1997..	X	N
33100055	All other aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	D
	.....1997..	X	2 207
33100077	Other nonferrous shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	3 527
	.....1997..	X	4 453
33531225	Fractional horsepower electric motors and generators (less than 1 hp) .....2002..	X	12 598
	.....1997..	X	N
33531221	Integral horsepower electric motors and generators (1 hp or more) .....2002..	X	36 170
	.....1997..	X	42 032
33299101	Ball and roller bearings (mounted or unmounted) .....2002..	X	11 610
	.....1997..	X	16 453
33361200	Mechanical speed changers, gears, and industrial high-speed drives .....2002..	X	37 489
	.....1997..	X	41 226
33141911	Gold and other precious metals, all forms (including ingot, sheet, strip, solder, plating, electrodes, etc.) .....2002..	X	D
	.....1997..	X	N
33441200	Printed circuit boards (without inserted components) for electronic circuitry .....2002..	X	3 429
	.....1997..	X	N
001900C4	Printed circuit assemblies, loaded boards, and modules (printed circuit boards with inserted electronic components) .....2002..	X	41 034
	.....1997..	X	N
32212031	Filter paper .....2002..	X	D
	.....1997..	X	1 645
00970099	All other materials and components, parts, containers, and supplies .....2002..	X	227 711
	.....1997..	X	544 618
00971000	Materials, ingredients, containers, and supplies, nsk .....2002..	X	190 817
	.....1997..	X	153 907

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p-10 to 19 percent estimated; q-20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.